S Register Settings

Register	Description	Range/Units	Default
S0*	Ring to Answer On	0-255 Rings	00
S1	Ring Count	0-255 Rings	00
S2	Escape Character Code	0-127 ASCII	43
S3	Carriage Return Character	0-127 ASCII	13
S4	Line Feed Character	0-127 ASCII	10
S5	Back Space Character	0-127 ASCII	08
S6	Wait for Dial Tone	0-255 Sec.	02
S7	Wait for Ring-Back/Data Carrier	1-30 Sec.	30
S8	Comma Pause Time	0-255 Sec.	02
S9	Carrier Detect Response Time	1-255 1/10 Sec.	06
S10	Delay from Lost Carrier to Hang-up	1-255 1/10 Sec.	14
S11*	DTMF Tone Duration/Spacing	50-255 1/100 Sec.	100
S12	Escape Code Guard Time	0-255 1/50 Sec.	50
S13	Reserved		
S14*	Bit Mapped Options		170
S15	Reserved		
S16	Diagnostic Test Options		00
S17	Reserved		
S18*	Test Timer	0-255 Sec.	00
S19	Reserved		
S20	Reserved		
S21*	Bit Mapped Options		00
S22*	Bit Mapped Options		118
S23*	Bit Mapped Options		7
S24	Reserved		
S25*	Delay to DTR Change	0-255 1/100 Sec.	05
S26*	RTS to CTS Delay	0-255 1/100 Sec.	01
S27*	Bit Mapped Options		64
S31*	Bit Mapped Options		11
S37	Max DCE Line Speed	0-6	0
S100	Mean Error Rate		0

* Saved in nonvolatile memory by **&Wn**.

Supra Corporation

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Result Codes

Result Code	Numeric Code	Description
OK	0	Acknowledges execution of a command.
BUSY	7	Modem has detected a busy signal.
ERROR	4	Invalid command, or command line buffer exceeded.
NO ANSWER	8	Remote modem did not answer phone within timeout period specified by **S7**, or @ dial modifier was issued and less than 5 seconds of silence detected.
NO CARRIER	3	Failure to connect or loss of carrier.
NO DIALTONE	6	No dialtone signal detected. Enabled with the **X2** and **X4** command options and the **W** dial modifier and.
RING	2	Ring signal detected.

Standard Connect Result Codes

CONNECT	1	Modem has connected at 300 bps.
CONNECT 600	9	Modem has connected at 600 bps.
CONNECT 1200	5	Modem has connected at 1200 bps.
CONNECT 2400	10	Modem has connected at 2400 bps.

Extended Connect Result Codes

	Result Code	Line Speed	Physical Protocol	Data Protocol
CONNECT V21/REL-MNP	20	300	V.21	MNP 2-4
CONNECT V21/REL-MNP-COMP	20	300	V.21	MNP 5
CONNECT V21/REL-LAPM	20	300	V.21	LAPM
CONNECT V21/REL-LAPM-COMP	20	300	V.21	V.42bis
CONNECT 103/REL-MNP	20	300	Bell 103	MNP 2-4
CONNECT 103/REL-MNP-COMP	20	300	Bell 103	MNP5
CONNECT 103/REL-LAPM	20	300	Bell 103	LAPM
CONNECT 103/REL-LAPM-COMP	20	300	Bell 103	V.42bis
CONNECT 1200/REL-MNP	22	1200	*	MNP 2-4
CONNECT 1200/REL-MNP-COMP	22	1200	*	MNP 5
CONNECT 1200/REL-LAPM	22	1200	*	LAPM
CONNECT 1200/REL-LAPM-COMP	22	1200	*	V.42bis
CONNECT 2400/REL-MNP	23	2400	V.22bis	MNP 2-4
CONNECT 2400/REL-MNP-COMP	23	2400	V.22bis	MNP 5
CONNECT 2400/REL-LAPM	23	2400	V.22bis	LAPM
CONNECT 2400/REL-LAPM-COMP	23	2400	V.22bis	V.42bis

* Either **Bell 212** or **V.22** protocol. Determined by **B** command.

LAPM and **V.42bis** connections available only on **SupraModem 2400 Plus**.

RS-232C Pin-Out

Pin	EIA	Abbrev.	Source	Description
1	AA	—	N/A	Protective Ground
2	BA	TXD	Terminal	Transmit Data
3	BB	RXD	Modem	Receive Data
4	CA	RTS	Terminal	Request to Send
5	CB	CTS	Modem	Clear to Send
6	CC	DSR	Modem	Data Set Ready
7	AB	GND	N/A	Signal Ground
8	CF	DCD	Modem	Data Carrier Detect
12	CI	SI	Modem	Data Speed Indicator
15	DB	TCLK	Modem	Transmit Clock (sync)
17	DD	RCLK	Modem	Receive Clock (sync)
18	—	LCLLB	Terminal	Local Analog Loopback
20	CD	DTR	Terminal	Data Terminal Ready
21	—	REMLB	Terminal	Remote Analog Loopback
22	CE	RI	Modem	Ring Indicator
24	DA	XTCLK	Terminal	External Transmit Clock

Modem = DCE **Terminal = DTE**

LED Indicator Lights

TE	*Transmission Error*	Flashes for 1 second to indicate MNP or LAPM data transmission error.
LAP	*LAPM*	LAPM error correction. *Plus only*
DC	*Data Compression*	MNP 5 data compression. On the SupraModem 2400 Plus, indicates the modem is using either MNP 5 data compression (if the MNP light is on) or BTLZ data compression (if the LAPM light is on).
MNP	*MNP 2-4*	MNP class 2-4 error correction.
HS	*High Speed*	2400 bps connection.
AA	*AutoAnswer*	Autoanswer enabled (**SØ** >Ø).
CD	*Carrier Detect*	Valid remote carrier detected.
OH	*Off Hook*	Modem is off hook (picked up telephone line). Flashes to indicate incoming ring signal.
RD	*Receive Data*	Flashes as incoming data is received.
SD	*Send Data*	Flashes as data is sent.
TR	*Terminal Ready*	Reflects status of DTR line.
MR	*Modem Ready*	Modem ready for communications.

SupraModem 2400™ MNP/Plus Reference Card

Commands

Command	Description
+++	Escape Code. Returns modem to command state. You must have a 1 second delay before and after this code.
AT	ATtention Code. Precedes all commands except A/ (repeat last command) and the +++ escape code.
A	Answer phone line. Brings modem off-hook in answer mode.
A/	Repeat last command line. (This command is neither preceded by AT nor followed by a carriage return).
\A*n*	MNP maximum block size (Ø=64, 1=128, 2=192, **3=256**).
%A*n*	Set AutoReliable fallback character (default=Ø).
B	Select CCITT V.21 / V.22 protocols.
B1	**Select Bell 103 / 212A protocols.**
\B	Transmit break.
&C	DCD signal always ON.
&C1	**DCD ON indicates data carrier from remote modem.**
\C*n*	Set AutoReliable buffer (Ø, 1, 2).
%C*n*	MNP 5 data compression (Ø=disabled, **1= enabled**).
D*n*	Dial the number that follows.
&D	Ignore DTR signal.
&D1	Switch from online state to command state upon ON-to-OFF transition of DTR.
&D2	**Hang up, disable autoanswer, and go to command state upon ON-to-OFF transition of DTR. Re-enable by turning DTR ON.**
&D3	Hang up and reset (**Z*n*** command) upon ON-to-OFF transition of DTR.
&D4	Enable asynchronous DTR dialing.
E*n*	Command echo (Ø=disabled, **1=enabled**).
&F	Load factory default Ø.
&F1	Load factory default 1 (&F plus \N3, \VØ, \J1, \Q3).
&F2	**Load factory default 2 (&F plus \N3, \V1, \JØ, \Q3).**
&G*n*	Guard tone (**Ø=none**, 1=550Hz, 2=1800Hz).
\G*n*	Modem-modem flow control (**Ø=off**, 1=XON/XOFF).
H*n*	Hook control (Ø=on hook/hang up, 1=off hook).
"H*n*	V.42bis compression control (Ø, **1**, 2, 3 *Plus only*).
I	Request product code ID from modem.
I1	Compute and return checksum of the internal ROM code.
&J	**RJ-11 / RJ-41 / RJ-45S telco jack type (standard line).**
&J1	RJ-12 / RJ-13 telco jack type (not supported).

Default settings are in bold.

Command	Description
\J*n*	Automatic rate adjust (**Ø=disabled**, 1=enabled).
-J*n*	Detection phase control (Ø=disabled, **1=enabled**, 2=enabled with MNP preferred *Plus only*).
\K*n*	Break processing (Ø, 1, 3, **5**).
L*n*	Speaker volume (Ø=low,1=low, **2=medium**, 3=high).
&L*n*	Line selection (**Ø=dial-up,** 1=leased — *not supported*).
\L*n*	MNP stream/block link (**Ø**, 1).
M	Speaker off.
M1	**Speaker on until carrier received.**
M2	Speaker always on.
M3	Speaker disabled while dialing and after carrier received.
&M*n*	Mode selection (**Ø=async**, 1=sync1, 2=sync2, 3=sync3).
\N*n*	Operating mode (Ø=Normal, 1=Direct, 2=MNP Reliable, **3=AutoReliable**, 4=LAPM/MNP Reliable — *Plus only*).
%N*n*	Maximum DCE connection rate (**0**, 1, 2, 3, 4, 5, 6).
"N*n*	Maximum dictionary size (512-**1024** *Plus only*).
O	Return online.
O1	Return online and initiate retrain sequence.
\O	Originate MNP Reliable link.
"O*n*	Maximum string length (6-250, default=**16** *Plus only*).
&P*n*	Pulse dial make/break ratio (**Ø=39/61 10pps**, 1=33/67 10pps, 2=39/61 20pps, 3=33/67 20pps).
Q*n*	Result codes (**Ø=enabled**, 1=disabled).
\Q*n*	Serial port flow control (Ø=disabled, 1=XON/XOFF, 2=uni-directional H/W, **3=bi-directional H/W**).
&R*n*	RTS/CTS sync mode (**Ø=CTS responds to RTS**, 1=ignore).
S*r*?	Return the decimal value of register *r*.
S*r*=*n*	Set register *r* to value *n*.
&S*n*	Select DSR action (Ø=always on, 1= CCITT recommend.).
\S	Show active configuration.
&T*n*	Test modem (1-8).
\T*n*	Set inactivity timer (**Ø-disabled**, 1-90 minutes).
\U	Accept MNP Reliable link.
V	Result codes (Ø=numeric, **1=verbal**).
\V*n*	Result codes (**Ø=standard,** 1=MNP extended, 2= V.42bis extended—*Plus only*).
&W*n*	Write active configuration to nonvolatile memory (Ø,1).

Command	Description
X	Blind dial and send CONNECT when connected.
X1	Blind dial; send the CONNECT XXXX result codes when connected; do not detect busy signal.
X2	Wait for dial tone before dialing; send CONNECT XXXX result codes when connected; do not detect busy signal.
X3	Blind dial; send CONNECT XXXX result codes when connected; send BUSY if busy signal is detected.
X4	**Wait for dial tone before dialing; send CONNECT XXXX result codes when connected; send NO DIALTONE code if dial tone not received in 5 seconds; send BUSY if busy signal detected.**
&X*n*	Synchronous transmit clock source (Ø, 1, 2).
\X*n*	Set XON/XOFF pass-through (Ø, 1).
Y	Long space disconnect (**Ø=disable**, 1=enable).
&Y*n*	Load stored configuration profile at power-up (**Ø**, 1).
\Y	Establish an MNP Reliable link.
Z*n*	Reset modem and load stored configuration (Ø, 1).
&Z*x*=*n*	Store telephone number *n* (*x*=Ø, 1, 2, 3).
\Z	Switch to Normal mode.

Dial Command Modifiers

Command	Description
P	Pulse dial.
R	Originate call in answer mode.
S	Dial stored number.
T	Tone dial.
W	Wait for second dial tone.
,	Pause.
;	Return to command state after dialing.
!	Flash (go on hook for 1/2 second).
@	Wait for quiet answer.
S*x*	Dial stored number (*x*= **0**, 1, 2, 3).

Recommended Settings

	Terminal(DTE) Speed	Initialization	Model
#1	Terminal=4800 bps	AT &F2	MNP
	Terminal=9600 bps	AT &F2 \V2	Plus
#2	Terminal=connection speed	AT &F1	either
#3	Terminal=connection speed	AT &FØ	either

We recommend initializing your SupraModem with the commands listed above. You can do this from your software's terminal mode or by entering these commands into the appropriate initialization sequence in your software. If setting #1 doesn't work correctly, try #2, and then #3. After you find the setting that works best in your situation, you should save this to the nonvolatile memory with **&W**.